

Goal 1.03 Direct Variation

1. The distance x a spring will stretch varies directly with a weight W attached to the spring. A spring stretches 11.7 inches with 90 pounds attached. How far will it stretch with 30 pounds attached?

2. In which table does y vary directly as x ? (Circle your answer)

Table 1

x	y
3.2	8.96
4.6	13.34
5.8	14.5
7.2	22.32

Table 2

x	y
4.2	10.5
5.3	14.5
6.6	16.5
10.2	25.5

3. Write an equation of the direct variation that includes $(-2, -4)$.
4. Jenny charges \$25 for 2 hours of tutoring and \$62.50 for 5 hours of tutoring. If x represents the number of hours of tutoring, and y represents the cost of tutoring, write the direct variation equation that models this situation.
5. When $x = 6.8$, $y = 50.32$. If y varies direct as x , what is y when x is 9.3?
6. Assuming that y varies directly as x , if $y = -4$ when $x = 2$, find y when $x = -6$.
7. Write an equation of the direct variation that includes $(-10, 4)$.
8. The cost of five pounds of grapes is \$9.90. The cost of seven pounds of grapes is \$13.86. What is the cost of 15 pounds of grapes?
9. Is the function $3x + y = 0$ a direct variation? If so, what is the constant of variation, k ?
10. Katherine typed 176 words correctly in 4 minutes. If the number of words typed varies directly as the time, how many words can she type in 16 minutes?
11. When $x = 3\frac{1}{2}$, $y = 8\frac{1}{6}$. If y varies directly as x , what is k , the constant of variation?
12. For each case below, y varies directly as x . In which case is k not the same as the other cases?
- A. When $x = 6.2$, $y = 0.434$
 - B. When $x = 4.6$, $y = 0.322$
 - C. When $x = 13.3$, $y = 0.931$
 - D. When $x = 2.3$, $y = 0.207$

13. Which statement about the table below is true?

x	y
4	7
12	21
30	52.5
80	140

- A. y does not vary directly as x
- B. k is 2.5
- C. k is 1.75
- D. k is 1.5